



and ILM's greatest challenge. From design to finish, more than two years have been spent, utilizing over 140 people in fourteen departments. But, in the end, just how special can the special effects be?

George Lucas once said that on a scale of 1 to 10, he'd rate the effects for *Star Wars* at 3.5. When asked about this after *The Empire Strikes Back* was released, Richard Edlund gave the sequel a 6.5. Now, on *Jedi*, Edlund notes, "I think its effects are better than those in both of the earlier films, but I'm not going to say they represent a perfect 10, because then I might as well retire next year."

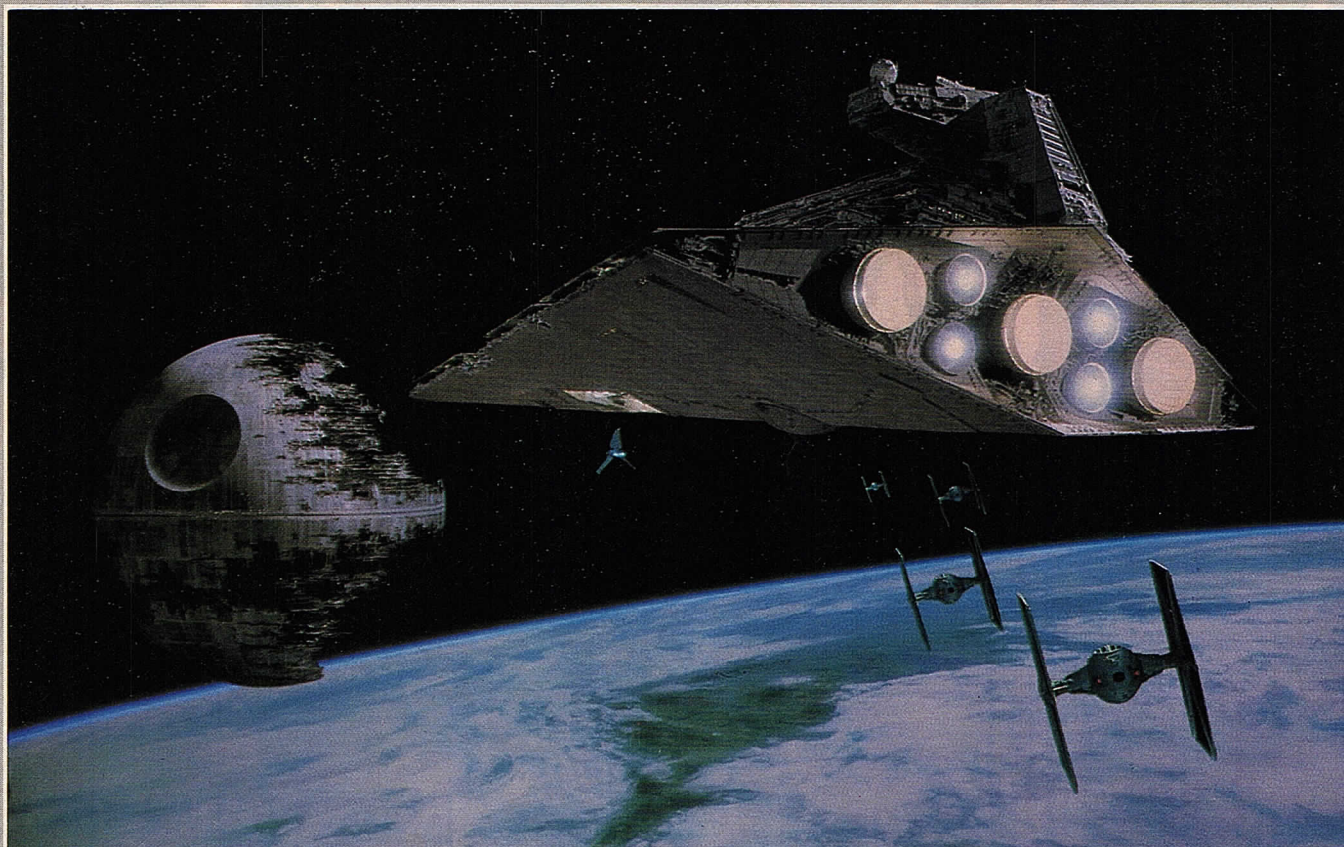
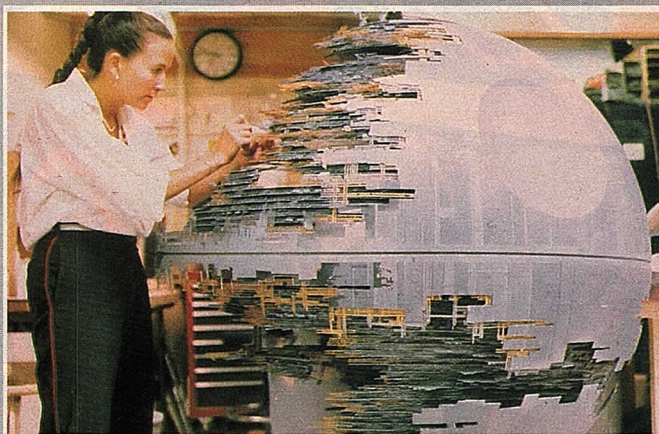
Steve Gawley, the model-shop supervisor, adds, "We've tried to do our best work, and I don't think audiences will be disappointed. *Return of the Jedi* will be the exclamation point after the initials ILM—it's all the tricks in our bag." ★

Adam Eisenberg writes on film from Los Angeles.

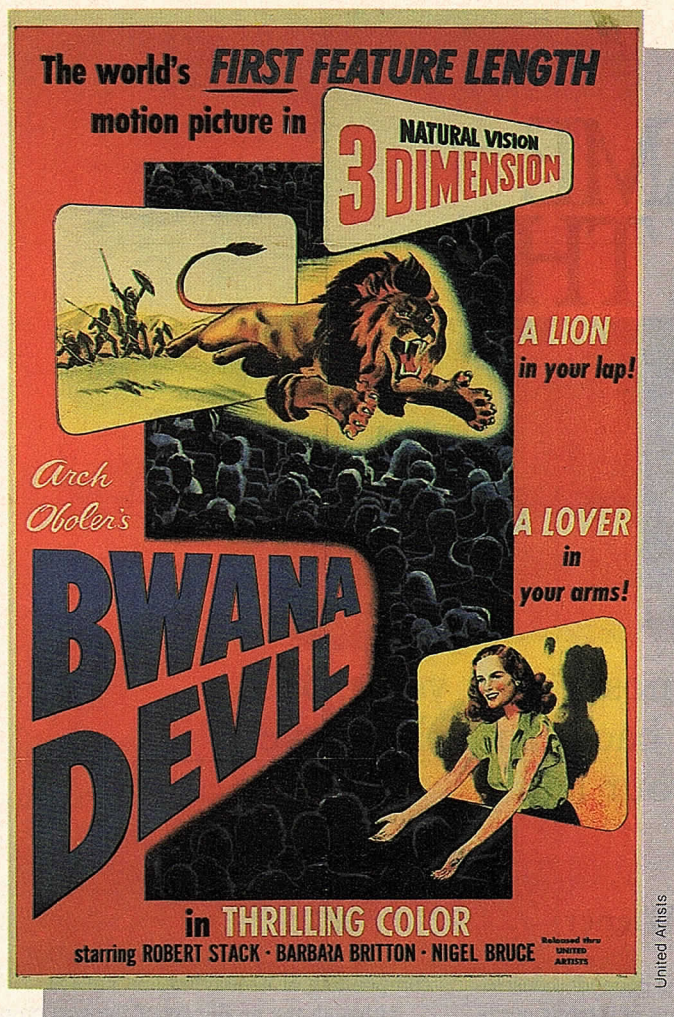
*Model maker Randy Ottenberg, right, works on the Death Star model. Below, the fruit of her labor: a Star Destroyer discharges an Imperial shuttle toward the new, unfinished Death Star as four TIE fighters patrol the sky over the Moon of Endor.*



Left, matte-department supervisor Mike Pangrazio works on a preliminary painting of Jabba's palace.







*Bwana Devil set the tone for the fifties 3-D boom: gimmick-laden films promoted by exploitative ads.*

tive illusion when done properly.

The first 3-D, or stereoscopic, motion picture camera was created in 1897 by William Friese-Greene; it used a two-lens camera and combined both images on a single strip of film. As Hal Morgan and Dan Symmes note in their entertaining history, *Amazing 3-D*, early film pioneers such as the Lumière brothers and Edwin S. Porter dabbled in stereoscopic film, but it wasn't until the twenties that 3-D made its first impression on the filmgoing public. In 1922 a feature film called *The Power of Love* was produced by inventor Harry K. Fairall, who did his own 3-D cinematography. Fairall used the anaglyphic process to project his film: Two strips of film, one dyed red, the other blue, were projected simultaneously. Viewers wore glasses with one red and one blue filter to separate the images and create the proper effect. (Anaglyphic 3-D was later used in some comic books in the fifties, in television presentations of 3-D movies, and in books contain-

ing three-dimensional photographs.)

In the thirties, Edwin Land developed polarizing filters; these were an improvement on the anaglyphic process because they didn't distort color. Hollywood used anaglyphic 3-D in 1936 and 1938 for a series of gimmick-laden Pete Smith shorts for MGM called *Audioscopiks* and *New Audioscopiks*, and in 1939 the Chrysler Corporation presented a polarized 3-D short at its World's Fair pavilion that attracted 1.5 million viewers in its first year of exhibition. Italy and Germany produced polarized 3-D features during the thirties, but World War II brought a halt to any further development of films in the third dimension.

Not long after the war, movie attendance began to plummet, many patrons

preferring to stay home and watch a new invention called television. By the early fifties, Hollywood was desperate for some way to fill its empty theaters. In November 1952, *Bwana Devil*, filmed in "Natural Vision 3-D," premiered, and the process was reborn. Independent producer Arch Oboler used a two-camera, two-projector polarized system that had been tested and rejected by every major studio. When *Bwana Devil*, despite a pasting from the critics, began breaking box-office records, the studios reconsidered their decision, and the 3-D race was on.

Within months of *Bwana Devil's* release, nearly every major studio weighed in with its own 3-D entries. And when *House of Wax*, the third 3-D feature, attracted both good notices and big audiences, the race to produce 3-D films became a virtual stampede. (One of the ironic footnotes of 3-D history is that the director of *House of Wax*, André de Toth, had one eye.)

But by the spring of 1954, less than

eighteen months after *Bwana Devil* jumped off the screen, the 3-D boom had collapsed. As to who killed 3-D, there were any number of suspects, starting with the studios, who jumped on the bandwagon with such indiscriminate fervor that the market was soon glutted with such laughable films as *Taza, Son of Cochise* and *Robot Monster*. When distributors demanded what exhibitors considered unfair financial terms for the 3-D product, many theater owners refused to deal with it. Untrained or overworked projectionists allowed their equipment to go out of sync, inflicting eyestrain and headaches on unwary patrons. As Chris Condon, president of Stereovision International and a longtime 3-D consultant, recalls, "Going to see a 3-D movie was like Russian roulette. You didn't know if you were going to see a good show or get your eyeballs cocked around." The introduction in 1953 of CinemaScope, which was advertised as "3-D Without Glasses," was the final blow.

In the mid-fifties, 3-D went into hibernation, crawling out of its cave occasionally to "enhance" such films as *The Playgirls* and *the Bellboy*, a 1962 nudie movie that featured seventeen minutes of 3-D footage and was directed in part by a very young Francis Ford Coppola, and *The Stewardesses*, a 1969 soft-core release whose \$26 million gross spurred a 3-D miniboom. In 1971, Grauman's Chinese Theater revived *House of Wax*, and local elementary school classes went to see it on field trips, as if going to a museum to see a mummy. This time around, the major studios steered clear of 3-D, and the process was confined to exploitation films like *Andy Warhol's Frankenstein* and *The Capital Hill Girls*; 3-D may not have been dead, but it was barely breathing.

Then, in the summer of 1981, came *Comin' at Ya!*, an Italian Western shot in 3-D. Produced by two former Xerox salesmen, Gene Quintano and Marshall Lupo, and star Tony Anthony, it was a surprise hit. Its plot, if you could call it that, was only an excuse to throw everything but the kitchen sink at the viewers. Critics hated it, but audiences loved it, and the film grossed more than \$12 million in its first year of release.

Like *The Stewardesses*, *Comin' at Ya!* may not have advanced the technology of 3-D, but its earnings did cause something of a stir in Hollywood. Several 3-D projects went on the drawing boards, and the first out was last summer's *Friday the 13th Part III*. Paramount's follow-up to its two "teens in jeopardy" successes defied the experts and outgrossed both *Friday* and *Friday II*,



# IT CAME FROM THE

# FIFTIES

Dead and buried for almost thirty years, 3-D is coming at you again, back from the grave and into your lap.

Thomas Wiener

**D**on't look now, but 3-D is back. Currently playing in a theater near you is Columbia Pictures' *Space Hunter: Adventures in the Forbidden Zone*, with Peter Strauss as a salvage dealer in search of used spaceships. And just when you thought it was really safe to go back into the theater, *Jaws-3D*, a Universal release, will be leaping into your lap next month, with Dennis Quaid, Bess Armstrong, and Oscar winner Louis Gossett, Jr., battling a great white shark. Coming at you later this year will be Paramount's comedy thriller *The Man Who Wasn't There*, by the same people who came out with *Friday the 13th Part III* in 3-D last summer; Orion's *Amityville 3-D*, with Tony Roberts and Candy Clark; and *Rottweiler*, a thriller about a pack of mad dogs, produced by North Carolina independent Earl Owensby. Farther down the road are *Hotel*, billed as the first rock musical in 3-D; *Phantom Empire*, a takeoff on old-time serials; *99 Women*, a women's prison film with Jill St. John; and the inevitable *3-D Movie*, a compilation of scenes from the best—and perhaps the worst—of 3-D films of yore. All in all, almost sixty projects have been announced.

With a 3-D production boom demonstrably under way, other signs of interest in the process have begun popping up. Atlanta and Detroit have held successful 3-D festivals, with Detroit's Institute of Art selling out every show of an eleven-film series. Last year, more than two million pairs of 3-D glasses were sold at 7-11 stores in the Los Angeles area for a television showing of a mediocre Vincent Price film from the fifties, *The Mad Magician*. *Dial M for Murder*, Hitchcock's only film in three dimensions—which was released "flat" after the fifties 3-D boom went bust—recently enjoyed brisk business in many cities in its original format. Three-dimensional films are now featured at theme parks like Florida's Marineland and EPCOT Center.

Despite this new flurry of activity, 3-D may still be the most misunderstood, maligned, and ineptly handled special process in film history. To put it bluntly, 3-D has an image problem. In the minds of most filmgoers, it's still associated with schlocky fifties films like *Bwana Devil* (whose ads promised "a lion in your lap, a lover in your arms"), with funny-looking cardboard glasses that left an unsightly red mark on the bridge of your nose, and with careless projection that drove people from theaters

complaining of headaches and nausea.

Although the producers of the new crop of 3-D movies promise us sharper images, better stories, and fewer gimmicks, the bad news is that we still have to wear those glasses. New, improved 3-D may herald a technical revolution, but many Hollywood observers are saying, "Start the revolution without me." Rehabilitating the image of 3-D is going to be difficult, but the new crop of films is giving it a try.

**T**he principle behind three-dimensional photography is based on the way the human brain perceives depth through binocular vision. The right eye and left eye see slightly different versions of the same image, which the brain then synthesizes to perceive depth. A photographer or filmmaker working in 3-D uses two lenses that should ideally be two and a half inches apart, to simulate the distance between the eyes. Those images are then combined on one strip of film or projected simultaneously on two strips. Either way, the viewer must use some kind of device to receive the right- and left-eye images correctly. The result, of course, is an illusion of depth, but an effec-



pulling in more than \$40 million at the box office and becoming the most successful 3-D movie of all time.

No one, including *Friday III* producer Frank Mancuso, Jr., will state unequivocally that *Friday III*'s box office paved the way for the current 3-D revival, but when a film budgeted at \$2.25 million earns almost twenty times its cost, people do tend to sit up and take notice. And as *Boxoffice* magazine noted, *Friday III* proved the feasibility of placing a 3-D movie in wide national release; Paramount carefully laid the groundwork with exhibitors by advising them on ways to prepare their screens and install projection equipment.

The current 3-D films, whether shot with one or two cameras, all use a single-projector polarized system with one strip of film carrying two images per frame. According to 3-D experts, this will reduce viewer discomfort sometimes caused by malfunctioning two-projector systems. However, 3-D still requires an aluminum or "silver" screen to present a brighter image than conventional screens, which absorb light. Exhibitors may choose to paint over an existing screen rather than install a new one; either way, they can safely project a "flat" film on the new screen by reducing the amount of light in the projector.

**I**n contrast with most of the technicians involved with the new wave of 3-D films, Ernie McNabb, the special 3-D consultant on *Space Hunter*, is no newcomer to the process. A Canadian engineer and filmmaker, McNabb first worked with 3-D in 1973 on an aborted National Film Board of Canada film that was to be shown in the United States as part of the Bicentennial. In 1976 he assisted director Murray Lerner on the 3-D film *Sea Dream* at Florida's Marineland, and the two went on to make the 3-D *Magic Journeys* for the Eastman Kodak pavilion at EPCOT. Now, McNabb feels, it's time to bring the technology out of the amusement park and into the theaters. "I feel the time is right for a good film, one with a good story line," he says. "Dimensionality is natural; why shouldn't we have it on film?"

For *Space Hunter*, McNabb developed a two-camera system that achieves its effects literally through mirrors. The cameras are placed at right angles to each other; the right-eye camera shoots straight ahead through a "beam-splitter" mirror; the left-eye camera is aimed at the angled mirror to pick up the image. McNabb claims his system is more flexible than the

**"SEEING 3-D WAS LIKE RUSSIAN ROULETTE," SAYS CHRIS CONDON. "YOU DIDN'T KNOW IF YOU WOULD SEE A GOOD SHOW OR GET YOUR EYE-BALLS COCKED AROUND."**

one-camera setup, and was essential for *Space Hunter*'s extensive special effects and miniatures work. In working with miniatures, the "interaxial" (the distance between the two lenses) must be reduced to less than the normal two and a half inches; otherwise, the miniatures look like, well, miniatures. With a one-camera system, the lenses are fixed at two and a half inches.

Filmmakers working in 3-D have found that there are limitations to the process. Certain kinds of shots are more difficult to do; according to McNabb, neither zoom shots nor dissolves, which change the planes of perspective and confuse the viewer, are easy to accomplish or particu-

larly desirable. Jim Contner, the director of photography on *Jaws-3D*, avoided prolonged takes: "The longer you look at one particular shot in 3-D, the more uncomfortable you get." The viewer must constantly readjust his vision for the different planes in the shot, and the result is distraction and possible discomfort.

Gene Warren and Mike Minor, on *Space Hunter*, encountered problems of their own. "You know what 3-D stands for?" asks Minor. "Damn, Damn, Damn." Warren adds, "We've got half the time we need on this picture, with three times the trouble." Their biggest challenge was to create three-dimensional effects in outer space. "In flat movies," says Warren, director of miniature and matte photography, "space is the easiest thing to deal with; in 3-D it's one of the hardest." Minor, the space effects designer, explains: "In space, you don't have any easy reference points. Planets and stars don't look round; they're just flat discs hanging out there. Beyond a thousand feet or so, everything looks flat to the human eye." The two found they could use matte paintings only in the extreme background of any shot. In shooting miniatures, Warren and Minor had to avoid using foreground details that might appear at the edge of the screen because they are distracting and destroy the illusion of depth.

And there are larger considerations. "You have to be very careful not to make a

*As the 3-D boom went bust, one of the last of the fifties entries, Dial M for Murder, played down the process in its ads.*





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gimmick film," says Joe Alves, the director of *Jaws-3D*. "Every time someone picks something up, you don't want the audience saying, 'Aha, they're going to throw that into the lens.'" In fact, says cinematographer Jim Contner, too many of those comin'-at-ya effects contributes to the headaches and eyestrain that have given 3-D its bad name. When you throw something at the viewers, Contner says, you force their eyes to cross. The result: The background in the shot seems as if it's going out of focus, and everyone reaches for the Alka-Seltzer.

For Alves and Contner, the important consideration in making *Jaws-3D* was to "choreograph" the obvious, in-your-lap 3-D effects, much the way they would choreograph the appearances of the great white shark. Both men got their feet wet working on the first two *Jaws* films, Alves as a production designer and second-unit director, Contner as a cameraman. They have been through the rigors of filming in the open water and welcomed the chance to film in the controlled environs of Orlando's Sea World. (In *Jaws-3D* a great white slips into the park's man-made lagoon and terrorizes the tourists.)

*Jaws-3D* used a one-camera system for nearly all its filming; a two-camera setup would have been awkward to handle in the film's many underwater shots and was used only for special effects. When the Arri system that Contner and Alves wanted to use wasn't quite ready, they began filming with a Stereovision setup. "That ended up being a week of tests," says Contner, "but we did get some usable stuff." For the most part, even though this was their first venture into 3-D, Alves and Contner weren't intimidated by the problems of working with the process. "A lot of people create a mystery about 3-D," says Contner, "but after a month or so you get used to working with it."

## "IF 3-D PROJECTION PROBLEMS ARE SOLVED," SAYS RUPERT HITZIG, "THEN 3-D IS HERE TO STAY. IF THEY'RE NOT, THEN IT'S ANOTHER PASSING FAD."

Not likely, it seems, and for several good reasons.

Although the current boom in video games and alternative forms of television, like cable and pay-per-view, appears to pose the same kind of threat to movies that television did in the fifties, the situations are not analogous. Last year was a record one at the box office, and even if some of that should be adjusted to take inflation and the *E.T.* phenomenon into account, few Hollywood observers would liken 1983 to 1953. *Variety* columnist Art Murphy stresses that "3-D was a gimmick in the fifties in a collapsing business, but the motion picture business has been in an upward curve the last fourteen years."


Perhaps the biggest potential problems for 3-D lie in exhibition. The reason the process works so well in theme parks, points out Ernie McNabb, is that conditions in a single theater can be rigidly maintained from day to day. But when prints of *Space Hunter* or *Jaws-3D* go out to eleven hundred theaters all over the country, it's a bit more difficult to ensure quality control.

McNabb feels optimistic about limiting the chances for error with *Space Hunter*. Columbia is manufacturing its own projector lenses, and these will be shipped to each theater showing the film, along with instruction sheets for projectionists. He adds that there are already three thousand silver-painted or aluminum screens in the country. According to Alan Landsburg, exhibitors showing *Jaws-3D* will receive a five-minute instruction film on how to project correctly in 3-D. Rupert Hitzig, the producer of *Jaws-3D*, claims he is willing to go anywhere at any time to speak to exhibitors about 3-D techniques. "If 3-D projection problems are solved," he declares, "then 3-D is here to stay. If they're not, then it's another passing fad."

One group of exhibitors that won't have to worry about 3-D is the drive-in operators. Even after a drive-in screen has been painted silver, the "throw" from the booth to the screen is too great, and the picture image not bright enough, to achieve three-dimensionality. Producer Frank Mancuso, Jr., who is now working on the 3-D thriller-comedy *The Man Who Wasn't There*, admits that *Friday the 13th Part III* would have been an even bigger hit if it could have played drive-ins in 3-D. And since 3-D is used in the kinds of films drive-ins specialize in—action and horror—producers will always be left wondering about all that lost revenue.

Finally, there are the glasses. Although they may seem at first glance an insignificant factor, those funny little plastic lenses set in cardboard frames may be more harmful to the health of 3-D than bad scripts or hokey special effects. Art Murphy insists that "the glasses are at best a nuisance." If a conventional movie is bad, he points out, you may stick around anyway to see if things get better, but in a bad 3-D film, you'll start to notice the glasses and that may be enough to drive you right out of the theater. The trick for filmmakers, says Murphy, is to make a picture so engrossing that audiences won't realize they're wearing the glasses.

As for the long-range future of 3-D, Landsburg is optimistic, estimating that five or six 3-D films a year is possible. Murphy, however, thinks that one or two major studio films a year in 3-D is a reasonable assumption, should *Space Hunter* and *Jaws-3D* do well. Earl Owensby, the producer of *Rottweiler*, is currently shooting his fourth film in 3-D ("I'm the most experienced filmmaker working in 3-D today"). He predicts, "You can mark it on your calendar right now: Five years, and 3-D'll be gone. It's just a gimmick, and people will get tired of it. Of course, there are only three ways to make movies: gimmick, gimmick, and gimmick."

Gimmick or not, it seems likely that as long as there's film, there will be filmmakers trying, for whatever reasons, to put a lion in our laps. The true believers in 3-D may still be a small sect, but their faith is firm. According to 3-D consultant Chris Condon, "Not one in ten people has seen 3-D projected well. And not one in a hundred has seen it projected at optimum. When you see it at optimum, that's when you get excited. That's my affliction; I've seen it at optimum." 

Thomas Wiener is a senior editor of *American Film*.

**M**uch of the press anticipating this summer's releases has focused on *Jaws-3D*, but Columbia Pictures may have pulled off a major coup by releasing *Space Hunter* nearly two months before *Jaws* surfaces. Although, as Alan Landsburg—executive producer of *Jaws-3D*—puts it, "*Space Hunter* will be the perfect trailer for our film."

If *Space Hunter* and *Jaws-3D* do put some polish on 3-D's tarnished image and in the process hold their own in the crowded summer marketplace, will we see the stampede that took place in the fifties?



Michael Berg

**G**oldfinger's menacing Oriental thug Oddjob tips his deadly derby to James Bond. Tears cascade into popcorn boxes during William Wyler's poignant melodrama of postwar readjustment, *The Best Years of Our Lives* (Best Picture of 1946). Science fiction fans revel in such extraterrestrial thrillers as *When Worlds Collide* and *The Day the Earth Stood Still*. And even after twenty-three years, Jean-Luc Godard's homage to the Hollywood gangster movie still leaves fans *Breathless*.

These are just a few examples of what is going on in America's repertory movie theaters, often called revival houses and now undergoing their own revival. Although repertory is the financial lightweight of motion picture exhibition, it has become a popular option for managers of independent, second-run movie houses who, since the late seventies, have found themselves in a profit squeeze.

In Manhattan alone, the number of revival houses has tripled in the past decade, and in Los Angeles three theaters switched to repertory within a week last September. The Landmark Theater Corporation, fondly nicknamed "the McDonald's of repertory," has grown phenomenally; its thirty-two-screen empire includes twenty-two revival houses from Atlanta to Seattle.

The variety of repertory theaters is as great as the range of programmers and audiences. One of the smallest (300 seats), oldest (since 1942), and most eclectic of rep houses is the Thalia in New York,

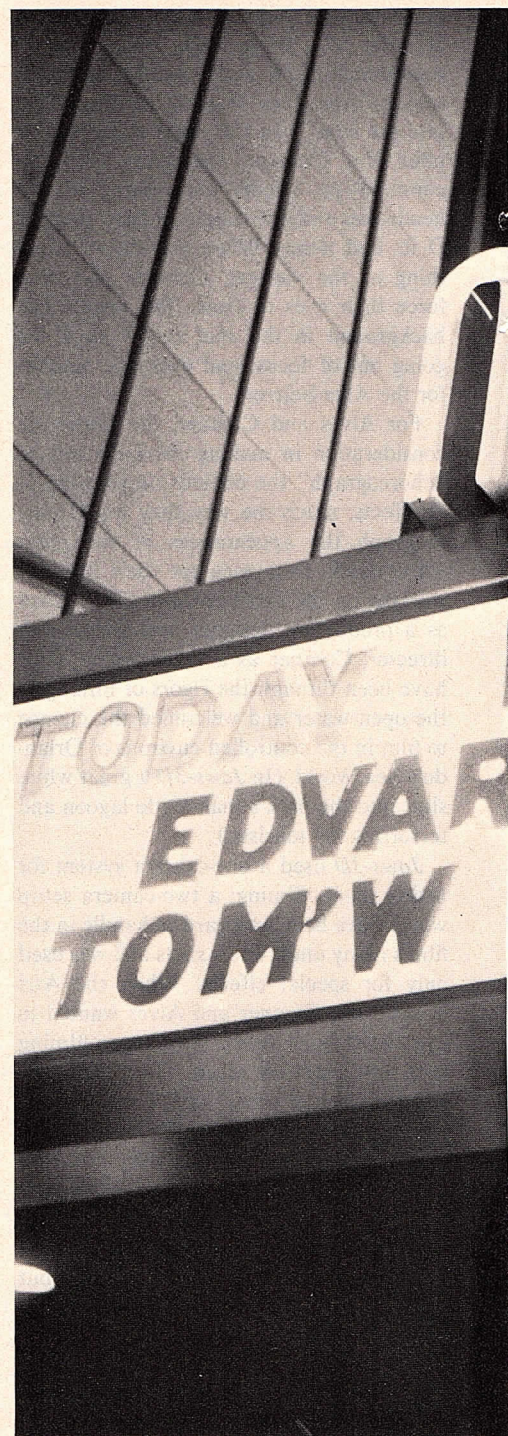
considered a run-down dump by some and a temple of lowbrow cinema by others. A few blocks uptown is the Metro, New York's newest (opened last fall), largest (500 seats), and most fabulously refurbished repertory theater, showing an exciting assortment of domestic classics and foreign films. And down Broadway is the Regency, which relies on older Hollywood fare and may be the most successful revival house anywhere.

Older Hollywood films, especially thirties and forties musicals, are a staple of the Vagabond on Los Angeles's Wilshire Boulevard. Vagabond owner Tom Cooper, a singer whose latest album is *Great Songs From Movie Musicals*, claims to have set a record with a ten-month, 500-film MGM retrospective. Also on Wilshire Boulevard are the Four Star and the El Rey, both of which opened last September. Lance Alspaugh, the El Rey's manager, admits his programming is not too venturesome: "My goal," he says, "is surviving." At \$2.50 a ticket, the El Rey offers about the cheapest double bill anywhere.

Repertory theaters in the hinterlands are also bringing people out for an evening at the movies. Don Hansen managed the 1,175-seat NorShore theater in Duluth, Minnesota, for twelve years; in response to increased first-run competition, he switched to repertory last September. The Vinegar Hill theater in Charlottesville, Virginia, is a converted motorcycle showroom; soon after it opened in 1976, says manager Reid Oechslein, an Ingmar Bergman double bill, *Virgin Spring* and *Naked Night*, drew mostly "winos" misled by the titles. These

# SECOND-HAND SHOWS

Repertory theaters all over the nation are discovering that it pays to recycle old films.



days, he adds, the theater is able to attract more sophisticated audiences.

Many film fans and revival-house operators say their love for repertory stems from dissatisfaction with new films. Dan Talbot, who runs the Metro, among other theaters, and heads the New Yorker Films distribution company, says, "Pictures being made today are very well crafted because of all the film schools, but there is nothing of interest inside the films. They are reflecting concerns that are very small and narcissistic." Talbot cites *Diva* as a